



Emergency Preparedness and Response

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Outbreak of Ebola virus disease (*Sudan ebolavirus*) in Central Uganda



Distributed via the CDC Health Alert Network

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Summary

The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory about a recently confirmed outbreak of Ebola virus disease (EVD) in Uganda caused by Sudan virus (species *Sudan ebolavirus*) to summarize CDC's recommendations for U.S. public health departments and clinicians, case identification and testing, and clinical laboratory biosafety considerations. **No suspected, probable, or confirmed EVD cases related to this outbreak have yet been reported in the United States.** However, as a precaution and to remind clinicians about best practices, CDC is communicating with public health departments, public health laboratories, and healthcare workers in the United States to raise awareness of this outbreak.

Background

On September 20, 2022, the Ministry of Health of Uganda officially declared an outbreak of EVD due to Sudan virus (species *Sudan ebolavirus*) in Mubende District, Central Uganda.

The first confirmed case of EVD was a 25-year-old man who lived in Mubende District and quickly identified as a suspect case of viral hemorrhagic fever (VHF) and isolated in the Mubende Regional Referral Hospital. Blood collected from this patient tested positive for Sudan virus by real-time reverse transcription polymerase chain reaction (rRT-PCR) on September 19, 2022, at the Uganda Virus Research Institute (UVRI). The patient died the same day, and a supervised burial was performed by trained staff wearing proper personal protective equipment (PPE). Further investigation into this case revealed a cluster of unexplained deaths occurring in the community during the previous month. As of October 6, 2022, a total of 44 confirmed cases, 10 confirmed deaths, and 20 probable deaths of EVD have been identified in Uganda.

CDC is working closely with the Ministry of Health of Uganda, the World Health Organization (WHO), and other partners to support the response to this outbreak.

This is the fifth outbreak of EVD caused by Sudan virus in Uganda since 2000. The current outbreak is in the same area as Uganda's most recent EVD outbreak caused by Sudan virus, which occurred in 2012. During the 2012 outbreak, limited secondary transmission was reported, and the outbreak was effectively contained.

As of October 6, 2022, no suspected, probable, or confirmed EVD cases related to this outbreak have been reported in the United States or other countries outside of Uganda. The geographic scope of this outbreak in Uganda is currently limited to five districts in central Uganda and not the capital Kampala or the travel hub of Entebbe. While there are no direct flights from Uganda to the United States, travelers from or passing through affected areas in Uganda can enter the United States on flights connecting from other countries. As a precaution, CDC is communicating with public health departments, public health laboratories, and healthcare workers in the United States, and educating travelers, to raise awareness of this outbreak. **It is important for clinicians to obtain a detailed travel history from patients with suspected EVD, especially those that have been in affected areas of Uganda.** Early consideration of EVD in the differential diagnosis is important for providing appropriate and

prompt patient care, diagnostics, and to prevent the spread of infection. Healthcare providers should be alert for and evaluate any patients suspected of having EVD, particularly among people who have recently traveled to affected areas in Uganda.

Ebola Virus Disease

A person infected with EVD is not contagious until [symptoms](#) appear (including fever, headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms, and unexplained bleeding). Sudan virus is spread through **direct contact** (through broken skin or mucous membranes) with the body fluids (blood, urine, feces, saliva, droplet, or other secretions) of a person who is sick with or has died from EVD, infected animals, or with objects like needles that are contaminated with the virus. EVD is **not** spread through airborne transmission.

There is currently no FDA-licensed vaccine to protect against Sudan virus infection. The Ebola vaccine licensed in the United States ([ERVEBO](#),[®] [Ebola Zaire Vaccine, Live, also known as V920, rVSVΔG-ZEBOV-GP or rVSV-ZEBOV](#)) is indicated for the prevention of EVD due to Ebola virus (species *Zaire ebolavirus*), and based on studies in animals, it is not expected to protect against Sudan virus or other viruses in the *Ebolavirus* genus. Also, there is currently no FDA-approved treatment for Sudan virus.

In the absence of early diagnosis and appropriate supportive care, EVD is a disease with a high mortality rate; occasional outbreaks have occurred mostly on the African continent. With intense supportive care and fluid replacement, mortality rates may be lowered. EVD most commonly affects humans and nonhuman primates (such as monkeys, gorillas, and chimpanzees). The genus *Ebolavirus* is known to comprise the following six species:

- Ebola virus (species *Zaire ebolavirus*)
- Sudan virus (species *Sudan ebolavirus*)
- Taï Forest virus (species *Taï Forest ebolavirus*, formerly *Côte d'Ivoire ebolavirus*)
- Bundibugyo virus (species *Bundibugyo ebolavirus*)
- Reston virus (species *Reston ebolavirus*)
- Bombali virus (species *Bombali ebolavirus*)

Of these, only four (Ebola, Sudan, Taï Forest, and Bundibugyo viruses) are known to cause EVD in humans. Infection with any Ebola species presents as clinically similar disease. Previous outbreaks of Sudan virus have had a mortality rate of approximately 50%.

Recommendations for Public Health Departments and Clinicians

Clinicians who evaluate patients with clinical symptoms such as fever, headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms, and unexplained bleeding should suspect possible VHF or EVD on the differential diagnosis and clinicians should be prompted to immediately take a travel history. Healthcare providers should be alert for and evaluate any patients suspected of having VHF or EVD, particularly among people who have recently traveled to affected areas in Uganda, and place in a private room while performing clinical evaluation. If performing an aerosol generating procedure, conduct in an Airborne Infection Isolation Room (AIIR) when feasible. Testing for diseases in returning travelers which may present similarly to EVD, such as malaria, should be considered, but clinical consultation should be pursued if there is still a high index of suspicion for EVD.

U.S. clinicians with concerns about a patient with suspected EVD should contact their state, local, tribal, or territorial health department immediately ([24-hour contact numbers for state and large jurisdiction health departments](#)  ) and follow jurisdictional protocols for patient assessment. Early recognition and identification of a suspected EVD [patient under investigation \(PUI\)](#) is critical. If a diagnosis of EVD is considered, clinical teams should coordinate with [state/local public health officials](#)   and CDC to ensure appropriate precautions are taken to help prevent potential spread of EVD.

As a resource for public health departments, CDC's Viral Special Pathogens Branch (VSPB) is available 24/7 for consultations regarding suspected VHF or EVD cases by calling the CDC Emergency Operations Center at 770-488-7100 and requesting VSPB's on-call epidemiologist, or by e-mailing spather@cdc.gov.

Healthcare personnel can be exposed to Ebola virus by touching a patient's body fluids, contaminated medical supplies and equipment, or contaminated environmental surfaces. Splashes to unprotected mucous membranes (for example, the eyes, nose, or mouth) are particularly hazardous. Procedures that can increase environmental contamination with infectious

material or create aerosols should be minimized. CDC recommends a combination of measures to [prevent transmission of EVD in hospitals including PPE](#).

Eight laboratories within the [Laboratory Response Network \(LRN\)](#) are able to test using the [Biofire FilmArray NGDS Warrior Panel](#) [↗](#), with more LRN laboratories working toward the ability to test. The Warrior Panel can detect Ebola, Sudan, Tai Forest, Bundibugyo, and Reston viruses.

Clinical and Laboratory Biosafety Considerations

All personnel handling specimens from patients with suspected EVD (especially patients with travel history to Uganda three weeks before symptom onset) should adhere to recommended [infection control practices](#) to prevent infection and transmission among laboratory personnel.

As a component of the Occupational Safety and Health Administration's (OSHA's) Bloodborne Pathogens Standard, laboratories handling blood and body fluids must have an [Exposure Control Plan](#) in place to eliminate or minimize employees' risk of exposure to pathogens.

Laboratories should conduct [extensive risk assessments](#) to identify and mitigate hazards associated with handling Ebola specimens to create the safest environment.

The [proper PPE](#) needs to be identified, available, and staff trained to properly don and doff their PPE. Staff need to be specially trained, have passed [competency testing](#), and attended drills to safely receive, handle, and process these specimens.

A laboratory should have dedicated space, equipment for handling and testing specimens from ill patients, and plans for minimizing specimen manipulation.

A [waste management plan](#) needs to be in place for lab reagents and Category A waste, including PPE and sample material.

If a facility does not have the appropriate risk mitigation capabilities, then the specimen should be forwarded to another facility that does.

For More Information

[General Ebola Information](#)

[General Resources for Ebola Virus Disease](#)

Clinician Resources

- [Ebola Virus Disease Information for Clinicians in U.S. Healthcare Settings](#)
- [Screening Patients for Ebola Virus Disease](#)
- [Considerations for Discharging People Under Investigation \(PUIs\) for Ebola Virus Disease](#)

Infection Prevention Resources

- [Interim Guidance for U.S. Hospital Preparedness for Patients Under Investigation \(PUIs\) or with Confirmed Ebola Virus Disease](#)
- [Infection Prevention and Control Recommendations for Hospitalized Patients Under Investigation \(PUIs\) for Ebola Virus Disease \(EVD\) in U.S. Hospitals](#)
- [Personal Protective Equipment \(PPE\) | Public Health Planners | Ebola \(Ebola Virus Disease\) | CDC Cleaning and disinfecting](#)
- [Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus](#)
- [Procedures for Safe Handling and Management of Ebola-Associated Waste](#)

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HAN Message Types

- **Health Alert:** Conveys the highest level of importance; warrants immediate action or attention.
- **Health Advisory:** Provides important information for a specific incident or situation; may not require immediate action.
- **Health Update:** Provides updated information regarding an incident or situation; unlikely to require immediate action.
- **Info Service:** Provides general information that is not necessarily considered to be of an emergent nature.

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This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations.

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